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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,753	09/21/2005	Sumie Suda	278290US0XPCT	1304

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ALEXANDRIA, VA 22314

EXAMINER

FOGARTY, CAITLIN ANNE

ART UNIT	PAPER NUMBER
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1793

NOTIFICATION DATE	DELIVERY MODE
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09/21/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/549,753	Applicant(s) SUDA ET AL.	
	Examiner CAITLIN FOGARTY	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 May 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. Claims 1 – 6 are pending and are presented for this examination. No claims have been amended.

Status of Previous Rejections

2. The 35 U.S.C. 103(a) rejection of claims 1 – 6 as being unpatentable over Hashimura et al. (US 6,338,763 B1) in view of "Fracture Toughness Properties-Effects of Microstructure and Heat Treatment" from the *Metals Handbook Desk Edition* has been maintained.

The provisional rejection of claims 1 and 2 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 – 14 of copending Application No. 10/550,019 in view of "Fracture Toughness Properties-Effects of Microstructure and Heat Treatment" from the *Metals Handbook Desk Edition* has been maintained.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1 – 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimura et al. (US 6,338,763 B1) in view of "Fracture Toughness Properties-Effects of Microstructure and Heat Treatment" from the *Metals Handbook Desk Edition*.

Hashimura in view of the *Metals Handbook Desk Edition* is applied to claims 1 – 6 as set forth in the February 20, 2009 Office action since no claims have been amended.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1 and 2 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 – 14 of copending Application No. 10/550,019 in view of “Fracture Toughness Properties-Effects of Microstructure and Heat Treatment” from the *Metals Handbook Desk Edition* as set forth in the February 20, 2009 Office action.

This is a provisional obviousness-type double patenting rejection.

Response to Arguments

7. Applicant's arguments filed May 20, 2009 have been fully considered but they are not persuasive.

Arguments are summarized as follows:

a. Regarding the claim 1 limitation that the steel has a prior austenite grain size number of 11.0 or larger, the *Metals Handbook* does not disclose that increased prior austenite grain size in high-strength steels necessarily has a detrimental effect on resistance to fatigue cracking. Applicant cited the reference Ritchie which teaches two cases that reveal contradictory effects of prior austenite grain size on resistance to fatigue cracking. Applicant argued that at best, the teaching of Ritchie and the *Metals Handbook* reveal that, for different types of steel, prior austenite grain size has different effects on fatigue/crack growth.

b. Applicant also cited Table 1 in the arguments filed May 20, 2009 to compare the steel wire of claim 1, the 300-M steel of the first case in Ritchie, and the Fe-4Cr-0.35C steel of the second case in Ritchie. Neither of these steels has the same composition as the steel of claim 1 (also different from the steel of Hashimura). Accordingly, the effects obtained in the steels of Ritchie are not predictive of the effects that would be obtained in a steel having the composition, e.g., claim 1 of Hashimura. One of ordinary skill in the art could not determine from the disclosures of *Metals Handbook* and Ritchie whether it would be

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desirable to increase prior austenite grain size or decrease prior austenite grain size of such steels to improve resistance to fatigue cracking.

c. Applicants further note that Fig. 13 of Ritchie shows that the prior austenite grain size numbers for the 300-M alloy steel and the Fe-4Cr-0.35C alloy steel are less than 9. It is not apparent from *Metals Handbook* and Ritchie how prior austenite grain size affects resistance to fatigue cracking when the prior austenite grain size number is equal to or greater than 11. One of ordinary skill in the art would have had no reason to expect that the steel of Hashimura would have desirable resistance to fatigue cracking if modified to increase the prior austenite grain size number.

d. Regarding the double patenting rejection, claims 1-4 of the 019 application do not require a prior austenite grain size number of 11.0 or larger, as required by instant claim 1. The *Metals Handbook* does not remedy the deficiencies of claims 1-4 of the 019 application for the same reasons as discussed above.

Examiner's responses are as follows:

a. The *Metals Handbook* teaching that an increased prior austenite grain size in high strength steels may have a detrimental effect on resistance fatigue cracking would lead one of ordinary skill in the art to minimize the prior austenite grain size of the steel wire for a high-strength spring because good resistance fatigue cracking is a desired property of a spring. Although the *Handbook* uses the language "may" it is still a positive recitation that would lead one of ordinary skill in the art to minimize the prior austenite grain size. In addition, Applicant's

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cited prior art of Ritchie does not compare the closest prior art of the record, Hashimura, to the claimed steel wire but rather compares two steels with completely different compositions. In the absence of factual evidence to the contrary in the form of a declaration, the Examiner maintains the position that it would have been obvious to one of ordinary skill in the art to minimize the prior austenite grain size as much as possible as evidenced by the *Metals Handbook*.

b. & c. As discussed above, Ritchie does not compare the instant steel with the closest prior art of Hashimura. Furthermore, the Examiner relied on the *Metals Handbook* for the teaching that one of ordinary skill in the art would have been motivated to minimize the prior austenite grain size as much as possible in order to avoid a detrimental effect on resistance to fatigue cracking of the steel wire for a high-strength spring of Hashimura. It would have been obvious to one of ordinary skill in the art to optimize the prior austenite grain size number through routine experimentation in order to achieve a desired amount of resistance to fatigue cracking of the steel. See MPEP 2144.05 II.

d. In the absence of factual evidence to the contrary, the Examiner maintains the position that it would have been obvious to one of ordinary skill in the art to minimize the prior austenite grain size of the steel of 10/550,019 as much as possible as evidenced by the *Metals Handbook* because an increased prior austenite grain size may have a detrimental effect on resistance to fatigue cracking of the steel wire for a high-strength spring.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CAITLIN FOGARTY whose telephone number is (571)270-3589. The examiner can normally be reached on Monday - Friday 8:00 AM - 5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art
Unit 1793

CF